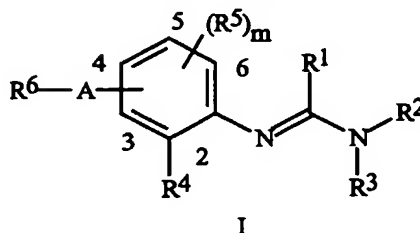


CLAIMS

What is claimed is:

1. A compound of Formula I and or an agriculturally suitable salt thereof,



5 wherein:

$R^1$  is H, OH, SH,  $SO_3H$ , CN,  $-OR^7$  or  $-SR^7$ ;  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$  alkenyl,  $C_2$ - $C_5$  alkoxy carbonyl,  $C_2$ - $C_{10}$  alkynyl, a  $C_3$ - $C_6$  carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted; provided that when  $R^1$  is a heterocycle containing nitrogen as a ring member, it is not attached to the remainder of Formula I through said nitrogen ring member;

$R^2$  is H, CN,  $-OR^7$ , or  $-SR^7$ ;  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$  alkenyl,  $C_2$ - $C_{10}$  alkynyl,  $C_3$ - $C_6$  carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or  $C_2$ - $C_{10}$  alkyl carbonyl, each optionally substituted;

$R^3$  is H;  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$  alkenyl,  $C_2$ - $C_{10}$  alkynyl, a  $C_3$ - $C_6$  carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or  $C_2$ - $C_{10}$  alkyl carbonyl, each optionally substituted; or

$R^2$  and  $R^3$  are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more  $R^9$ ;

$R^4$  and each  $R^5$  are each independently  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkenyl,  $C_2$ - $C_6$  alkynyl,  $C_3$ - $C_6$  cycloalkyl,  $C_1$ - $C_6$  haloalkyl,  $C_2$ - $C_6$  haloalkenyl,  $C_2$ - $C_6$  haloalkynyl,  $C_3$ - $C_6$  halocycloalkyl, halogen, CN, CHO,  $CO_2H$ ,  $CONH_2$ ,  $SF_5$ ,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl,  $C_1$ - $C_4$  haloalkylsulfonyl,  $C_1$ - $C_4$  alkylamino,  $C_2$ - $C_8$  dialkylamino,  $C_3$ - $C_6$  cycloalkylamino,  $C_2$ - $C_6$  alkyl carbonyl,  $C_2$ - $C_6$  alkoxy carbonyl,  $C_2$ - $C_6$  alkylaminocarbonyl,  $C_3$ - $C_8$  dialkylaminocarbonyl or  $C_3$ - $C_6$  trialkylsilyl;

$R^6$  is  $C_5$ - $C_{21}$  alkyl,  $C_5$ - $C_{21}$  alkenyl,  $C_5$ - $C_{21}$  alkynyl,  $C_4$ - $C_9$  alkoxy carbonyl,  $C_4$ - $C_6$  alkylaminocarbonyl,  $C_3$ - $C_{10}$  dialkylaminocarbonyl or  $C_3$ - $C_{12}$  trialkylsilyl, each optionally substituted; or  $R^6$  is  $C_1$ - $C_4$  alkyl or  $C_2$ - $C_9$  alkyl carbonyl, each substituted with one or more  $R^{12}$ ;

A is a direct bond, O, S(O)<sub>n</sub> or NR<sup>10</sup>;

each R<sup>7</sup> is independently C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, a C<sub>3</sub>-C<sub>6</sub> carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted;

each R<sup>9</sup> is independently halogen, CN, NO<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> alkylthio;

R<sup>10</sup> is H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxycarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl or C<sub>3</sub>-C<sub>6</sub> trialkylsilyl;

each R<sup>12</sup> is independently CO<sub>2</sub>H, CONH<sub>2</sub>, NO<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub> haloalkoxy, C<sub>2</sub>-C<sub>6</sub> alkylthio, C<sub>1</sub>-C<sub>6</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>6</sub> haloalkylthio, C<sub>1</sub>-C<sub>6</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> haloalkylsulfonyl, C<sub>1</sub>-C<sub>6</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxycarbonyl, C<sub>3</sub>-C<sub>9</sub> alkoxyalkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>10</sub> alkylaminoalkylcarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl, C<sub>4</sub>-C<sub>8</sub> dialkylaminoalkylcarbonyl, C<sub>3</sub>-C<sub>9</sub> alkylthioalkylcarbonyl, C<sub>3</sub>-C<sub>9</sub> halotrialkylsilyl, C<sub>4</sub>-C<sub>9</sub> alkoxytrialkylsilyl, C<sub>3</sub>-C<sub>9</sub> trialkylsilyl or C<sub>3</sub>-C<sub>9</sub> trialkylsilyloxy;

n is 0, 1 or 2; and

m is 0, 1, 2 or 3.

2. A compound of Claim 1 wherein:

R<sup>1</sup> is H, SH, SO<sub>3</sub>H, CN, -OR<sup>7</sup> or -SR<sup>7</sup>; C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkynyl, each optionally substituted with one or more R<sup>8</sup>; or a C<sub>3</sub>-C<sub>6</sub> carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R<sup>9</sup>;

R<sup>2</sup> is H, CN, -OR<sup>7</sup> or -SR<sup>7</sup>; C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl or C<sub>2</sub>-C<sub>10</sub> alkylcarbonyl, each optionally substituted with one or more R<sup>8</sup>; or a C<sub>3</sub>-C<sub>6</sub> carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R<sup>9</sup>;

R<sup>3</sup> is H; C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl or C<sub>2</sub>-C<sub>10</sub> alkylcarbonyl, each optionally substituted with one or more R<sup>8</sup>; or a C<sub>3</sub>-C<sub>6</sub> carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R<sup>9</sup>; or

R<sup>2</sup> and R<sup>3</sup> are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R<sup>9</sup>;

R<sup>6</sup> is C<sub>5</sub>-C<sub>21</sub> alkyl, C<sub>5</sub>-C<sub>21</sub> alkenyl, C<sub>5</sub>-C<sub>21</sub> alkynyl, C<sub>4</sub>-C<sub>9</sub> alkoxycarbonyl, C<sub>4</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>10</sub> dialkylaminocarbonyl or C<sub>3</sub>-C<sub>12</sub> trialkylsilyl, each

optionally substituted with one or more R<sup>11</sup>; or R<sup>6</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>2</sub>-C<sub>9</sub> alkylcarbonyl, each substituted with one or more R<sup>12</sup>;  
each R<sup>7</sup> is independently C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, each optionally substituted with one or more R<sup>8</sup>; or a C<sub>3</sub>-C<sub>6</sub> carbocycle or a 3-, 4-, 5- or  
5 6-membered heterocycle, each optionally substituted with one or more R<sup>9</sup>;  
each R<sup>8</sup> is independently halogen, CN, NO<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> alkylthio; and  
each R<sup>11</sup> is independently halogen, CO<sub>2</sub>H, CONH<sub>2</sub>, NO<sub>2</sub>, hydroxy, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> haloalkoxy, C<sub>2</sub>-C<sub>6</sub> alkylthio, C<sub>1</sub>-C<sub>6</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl,  
10 C<sub>1</sub>-C<sub>6</sub> haloalkylthio, C<sub>1</sub>-C<sub>6</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>6</sub> haloalkylsulfonyl, C<sub>1</sub>-C<sub>6</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxy carbonyl, C<sub>3</sub>-C<sub>9</sub> alkoxyalkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>4</sub>-C<sub>10</sub> alkylaminoalkylcarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl, C<sub>4</sub>-C<sub>8</sub> dialkylaminoalkylcarbonyl, C<sub>3</sub>-C<sub>9</sub> alkylthioalkylcarbonyl, C<sub>2</sub>-C<sub>8</sub> dialkylphosphoryl, C<sub>2</sub>-C<sub>8</sub> dialkylphosphinyl, C<sub>3</sub>-C<sub>9</sub> trialkylsilyl or C<sub>3</sub>-C<sub>9</sub> trialkylsilyloxy.

3. A compound of Claim 2 wherein

R<sup>1</sup> is H, SH or C<sub>1</sub>-C<sub>10</sub> alkyl,

R<sup>2</sup> is H, CN, -OR<sup>7</sup> or -SR<sup>7</sup>; C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, each  
20 optionally substituted with one or more R<sup>8</sup>; or phenyl optionally substituted with 1 to 3 R<sup>9</sup>;

R<sup>3</sup> is H; C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkynyl, each optionally substituted with one or more R<sup>8</sup>; or phenyl optionally substituted with 1 to 3 R<sup>9</sup>; or

R<sup>2</sup> and R<sup>3</sup> are taken together with their interconnecting nitrogen to form a heterocyclic  
25 ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R<sup>9</sup>;

R<sup>4</sup> and R<sup>5</sup> are each independently C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, halogen, CO<sub>2</sub>H, CONH<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub> alkoxy carbonyl, C<sub>1</sub>-C<sub>6</sub> alkylaminocarbonyl, CN, CHO or C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl;  
30

R<sup>6</sup> is C<sub>5</sub>-C<sub>15</sub> alkyl, C<sub>5</sub>-C<sub>15</sub> alkenyl or C<sub>5</sub>-C<sub>15</sub> alkynyl, each optionally substituted with one or more R<sup>11</sup>; or R<sup>6</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl substituted with one or more R<sup>12</sup>;

each R<sup>7</sup> is independently C<sub>1</sub>-C<sub>6</sub> alkyl, optionally substituted with one or more R<sup>8</sup>;

A is a direct bond, O or S(O)<sub>n</sub>; and

m is 0, 1 or 2.

4. A compound of Claim 3 wherein

A is attached to the remainder of Formula I at the 4 position of the benzene ring.

5. A compound of Claim 4 wherein

5  $R^2$  and  $R^3$  are each independently H or  $C_1$ - $C_{10}$  alkyl; or

$R^2$  and  $R^3$  are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more  $R^9$ ;

10  $R^4$  and  $R^5$  are each independently halogen, CN, CHO,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl or  $C_1$ - $C_6$  haloalkyl;

One  $R^5$  is attached to the remainder of Formula I at the 5 position of the benzene ring and an optional second  $R^5$  is attached at the 6 position of the benzene ring; and m is 1 or 2.

6. A compound of Claim 5 wherein

$R^1$  is H; and

20  $R^6$  is  $C_6$ - $C_{15}$  alkyl wherein at least one of the fourth and fifth carbon from A has one or no hydrogen attached or  $C_5$ - $C_{15}$  2-alkenyl wherein the fourth or fifth carbon from A has one or no hydrogen attached.

7. A compound of Claim 5 wherein

$R^1$  is H; and

25  $R^6$  is  $C_1$ - $C_4$  alkyl substituted with one or more substituents selected from the group consisting of  $C_2$ - $C_6$  alkylthio,  $C_1$ - $C_6$  alkylsulfinyl,  $C_2$ - $C_6$  alkoxy, carbonyl,  $C_2$ - $C_8$  dialkylamino,  $C_2$ - $C_6$  alkylcarbonyl,  $C_3$ - $C_9$  alkoxyalkylcarbonyl,  $C_2$ - $C_6$  alkylaminocarbonyl,  $C_3$ - $C_8$  dialkylaminocarbonyl,  $C_3$ - $C_9$  trialkylsilyl,  $C_3$ - $C_9$  haloalkylsilyl,  $C_4$ - $C_9$  alkoxytrialkylsilyl or  $C_3$ - $C_9$  trialkylsilyloxy.

8. A fungicidal composition comprising a fungicidally effective amount of a compound of Claim 1 and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents.

9. A fungicidal composition comprising a mixture of a compound of Claim 1 and at least one other fungicide having a different mode of action.

35 10. A method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of a compound of Claim 1.